PARSONS BRINCKERHOFF

California High-Speed Rail
Program Management Team
Memorandum

To: Regional Directors, Regional Managers

From: Ken Jong, Deputy Program Director - Engineering

Copy: Tom Lee; John Chirco, Infrastructure; Rick Schmedes, Systems; Joe Metzler, PMT O&M; Mark Ashley, PMO; Jeff Ambercrombie, CHSRA

Date: October 24, 2011

Subject: Notice to Designers No. 8 – Geotechnical Boring and Sample Identification, Handling and Storage Guidelines, R0

PURPOSE

The purpose of this memorandum is to provide guidance for consistent identification, handling and storage of geotechnical borings and samples.

BORING LOCATION IDENTIFICATION

Identify geotechnical borings using the convention **X####T** where,

X: Subdivision / Segment Identification (*Source: CHSTP TM 1.1.8 SubdivisionMilepostMap_080409*)

B	Bay Subdivision	San Francisco to CP Divide
S	Sierra Subdivision	CP Divide to Bakersfield
D	Desert Subdivision	Bakersfield to Los Angeles
T	Tongva Subdivision	Los Angeles to Anaheim
C	Capitol Subdivision	CP Divide to Sacramento
J	San Jacinto Subdivision	CP Inland Junction to San Diego
P	Pacheco Subdivision	CP San Joaquin to CP Merced

####: 4-digit number (0001-9999)

T: Type of boring (Source: *Figure 2-4, Caltrans Soil and Rock Logging, Classification, and Presentation Manual, 2010)*

A	Auger boring (hollow or solid stem, bucket)
R	Rotary drilled boring (conventional)
RC	Rotary core (self-cased wire-line, continuously-sampled)
RW	Rotary core (self-cased wire-line, not continuously sampled)
P	Rotary percussion boring (Air)
HD	Hand driven (1-inch soil tube)
HA	Hand Auger
D	Driven (dynamic cone penetrometer)
CPT	Cone penetrometer test
O	Other (not listed)

Example: Boring 24 in Fresno drilled by rotary method will be identified as: **S0024R**.

If two drilling methods are used, such as auger boring followed by rotary drilled boring, the predominant tool governs the selection of code "T".

Samples shall be consecutive and sequentially numbered,

SAMPLE IDENTIFICATION

Identify samples according to the convention **TNNX####** where,

T: Type of Sample (*according to Figure 2-41, Caltrans Soil and Rock Logging, Classification, and Presentation Manual, 2010)*,

- **U** Undisturbed Shelby tube
- **P** Undisturbed Piston
- **S** Split spoon (includes SPT and Cal Mod Samplers)
- **B** Bulk
- **C** Core (both rock and soil)
- **D** Disturbed (include auger cuttings)
- **O** Other (not listed)

NN: 2-digit sample number (01-99)

X: Segment Identification (see *Boring Identification*)

####: 4-digit boring number (see *Boring Identification*)

Example: SPT sample #3 of boring 24 of Fresno Bakersfield segment will be identified as: **S03S0024**

HANDLING AND STORAGE

Persons responsible for sample handling, transportation and storage shall follow ASTM standards and protocols:

ASTM D1587, *Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes*

ASTM D4220, *Standard Practices for Preserving and Transporting Soil Sample*

ASTM D5079, *Standard Practices for Preserving and Transporting Rock Core Samples*

Samples in Tubes and Bags:

- Label samples using a black permanent marker
- Orientate sample identification such that the top and bottom of sample is readily identifiable
- Use duct tape/black electrical tape to seal the end caps on the sample tubes
- Store/transport Shelby tubes in upright position and away from direct sunlight/heat
- Write sample identification directly on the plastic bags
- Seal/tie plastic bag samples and store/transport away from direct sunlight/heat
- Store bulk samples in bins.

Soil Sample Labels:

Provide following information on glass/plastic jar, tube and bag samples of soils:

- Sample ID
- Depth of sample
- Date sample was collected
- Name of the logger
- Name of the company

Core Box Labels:

Provide the following information on the top of the core box:

- "CHSR", Two letter segment identification (*see Boring Identification*) and Station
- Boring ID
- Ground Elevation
- Date sample was collected
- Name of the logger
- Name of the company
- Box number

Provide the Boring ID and Box number on the outside right end of the core box. Label depths on wooden blocks at beginning and end of each run inside the core box. The attached figure Illustrates sample and core box labels.

Storage

Storage of geotechnical borings and samples shall be performed consistent with the following protocol.

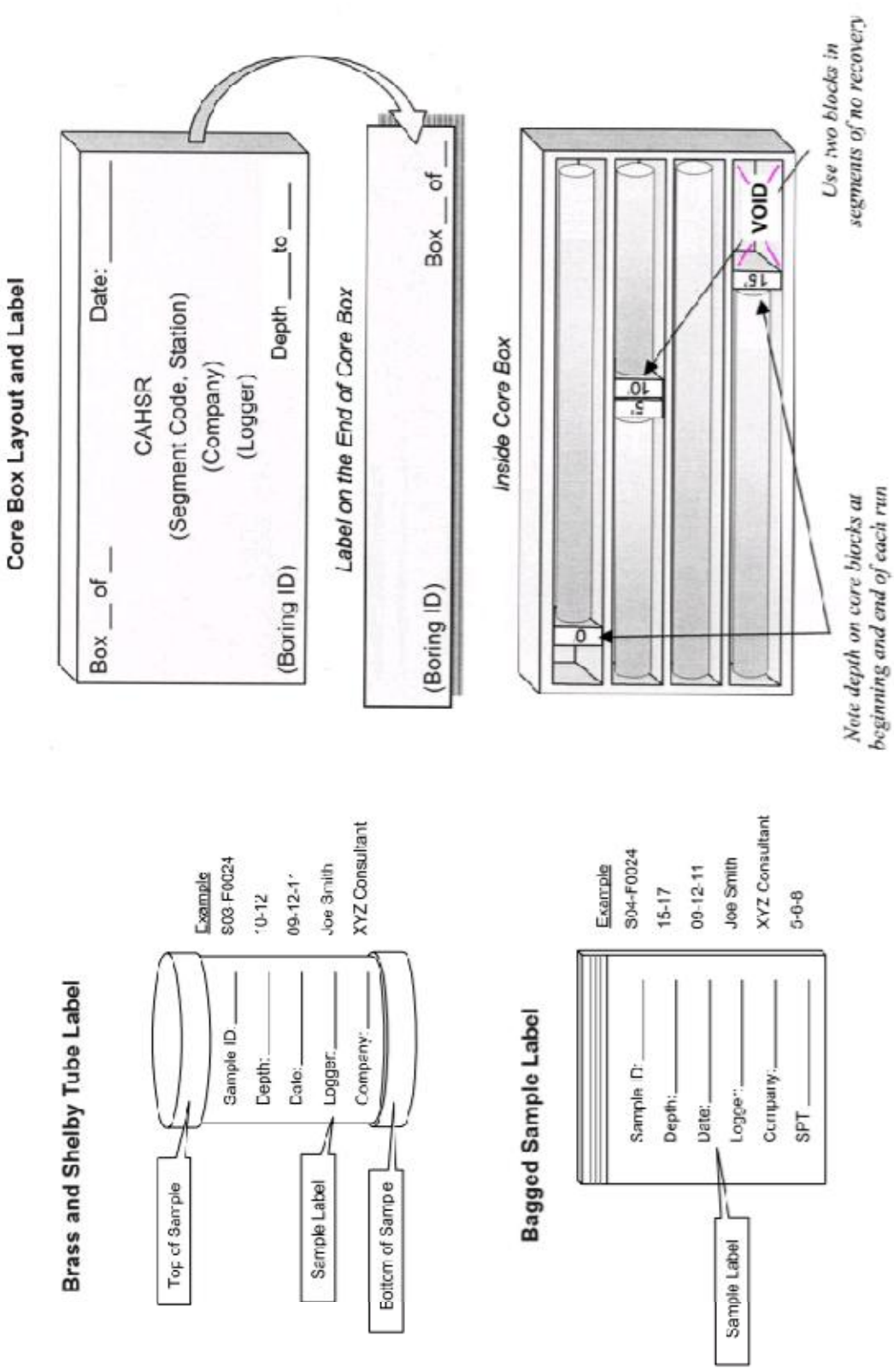
1. Soil and rock samples shall be tested in a Caltrans certified laboratory.
2. Untested soil and rock samples shall be properly labeled prior to being transported for storage.
3. The storage facility shall be located within 100 miles of the project site.
4. Samples performed for a specific construction contract shall be stored at one facility. If more than one storage site is required, the facilities shall be located in as close proximity as is practical.
5. The storage site shall allow for easy access to all samples since the Authority may elect to allow prospective bidders to view the soil and rock samples during the bidding stage.
6. Following award of the contract, the Authority will instruct the investigation consultants as to whether to discard the soil samples or not. All rock samples shall be held by the Regional Consultant until construction is complete and accepted or until otherwise instructed by the Authority.
7. If the Authority elects not to take possession of the soil and rock samples, the investigation consultants shall be responsible for sample handling and disposal at that time.
8. Untested soil and rock samples shall not be disposed of or released to any other party at any time without the written authorization of the Authority.

APPROVAL OF DRILLERS AND LABORATORY CONSULTANTS

1. Regional Consultants are responsible for selection of qualified subconsultants to perform investigations, laboratory testing, storage and related work in accordance with project requirements.
2. Selection of subconsultants shall consider quality, cost, and ability to achieve schedule.
3. Regional Consultant shall advise the Authority of the parties to perform the work prior to start of work.
4. Approval of subconsultants by the EMT is not required.

LIMITATIONS

These guidelines are not intended to address requirements applicable to transporting or storing of samples known or suspected to contain hazardous materials. It is the responsibility of the user of these guidelines to establish appropriate safety and health practices.


Core Box Layout and Label
Box __ of __
Date: ____
CAHSR
(Segment Code, Station)
(Company)
(Logger)
Depth ____ to ____
(Boring ID)
Label on the End of Core Box
Box __ of __
(Boring ID)
Inside Core Box
VOID
Use two blocks in segments of no recovery
Note depth on core blocks at beginning and end of each run
Brass and Shelby Tube Label
Example
S03-F0024
'0-12
09-12-1'
Joe Smith
XYZ Consultant
Sample ID: ____
Depth: ____
Date: ____
Logger: ____
Company: ____
Top of Sample
Sample Label
Bottom of Sample
Bagged Sample Label
Example
S04-F0024
15-17
09-12-11
Joe Smith
XYZ Consultant
5-0-8
Sample ID: ____
Depth: ____
Date: ____
Logger: ____
Company: ____
SPT ____
Sample Label